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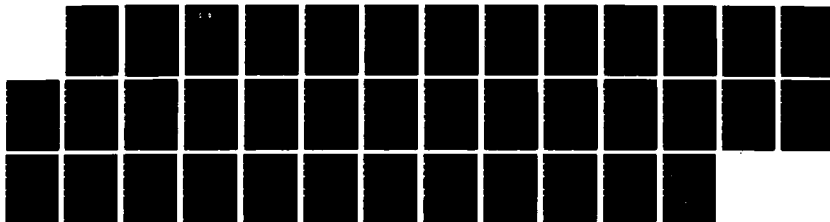
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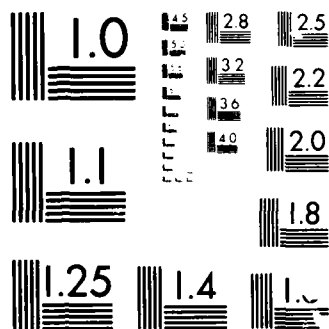
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THE DRILL INSTRUCTOR

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Seattle, Washington 98195

February 29, 1988

Final Report

Approved for Public Release

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19 ABSTRACT (Continue on reverse if necessary and identify by block number) This project was designed to develop a stress-coping program for drill instructors. The program consists of (1) 6 videotaped modules on key themes concerning stress and coping, (2) 8 vignettes on recurrent problem situations and how to handle them, and (3) follow-up seminars for graduate drill instructors. Instructor manuals and student workbooks were also developed. Data gathered indicated that the stress-coping has high interest value and perceived applicability. Evaluative studies yielded positive results.				
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THE DRILL INSTRUCTOR

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This report was prepared under the Navy Manpower, Personnel, and Training R & D Program of the Office of the Chief of Naval Research under Contract N00014-82-C-0528.

Introduction

The primary focus of this project, begun in 1984, was to develop a stress-coping program for use at the Parris Island and San Diego Marine Corps Recruit Depots (MCRDs). To achieve the project's objectives it was necessary to write and do pilot testing on scripts for training TV tapes, collaborate with the Quantico television unit, prepare manuals and workbooks for both instructors and students, determine the applicability, understandability, and interest value of the materials developed, and to help the two MCRDs incorporate the materials developed into their programs. In addition, a stress-coping seminar series for graduate drill instructors was developed.

The project was an outgrowth of prior studies of both Marine Corps recruits and drill instructors. As our early work on the recruits' training unit environment unfolded, the key role of the drill instructor became increasingly evident. We examined several cohorts of drill instructors at MCRD San Diego beginning with their entry at Drill Instructor School. Several psychological and physiological studies were conducted. Our findings indicated that stress reactions among drill instructors increased significantly as a function of drill field duty. Both self-reported and physiological changes in the direction of increased stress occurred for drill instructor cohorts during their first year after graduation from Drill Instructor School. In addition, performance evaluations made by supervisors were significantly related to drill instructors' self-reported stress, high stress being associated with poor performance evaluations. Analyses of heart rate and blood pressure data



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indicated that drill instructors undergo significant changes in physiological arousal in the course of performing their duties.

The Drill Instructor School Stress Coping Training Program

The major product of this project has been a multicomponent stress-coping training program for drill instructors. As developed, the program consists of: (1) six videotaped modules on key themes concerning stress and coping, (2) eight vignettes on recurrent problem situations and how to handle them, and (3) follow-up seminars with graduate drill instructors intended to reinforce what was taught in the initial program. The first two instructional components, which constituted our initial plan, were presented in Drill Instructor School. The third component was added subsequent to project commencement as a response to initiatives by the Recruit Training Regiment commanders.

Stress Coping Skills Modules. In conjunction with TAVSC, San Diego and Parris Island, and with TAVSC, Quantico, six modules of approximately 15 minutes each were produced. The modules were: (A) "Demanding Excellence: Stress on the Drill Field and How to Cope with it," (B) "Coping with Frustration in Supervising Physical Training," (C) "Anger and Impatience," (D) "Coping with Evaluation Anxiety," (E) "Personal Relationships," and (F) "Recruit Evaluation." Full descriptions of these videotapes are presented in the program's instructors' manuals.

As indicated above, the modules were developed in light of our earlier research on stress among drill instructors. The process of module development utilized the research findings, existing knowledge about stress interventions, and extensive interviews with drill instructors, Drill Instructor School staff, and regimental and battalion commanders. Draft

scripts and prototypes of each videotape were sequentially reviewed by local commanders, and by Headquarters, Marine Corps as they were produced.

The modules portray stressful aspects of the drill field and present seven basic coping skills for handling the stress of this demanding job. The coping skills are: (1) being task-oriented, focusing on what must be accomplished rather than being preoccupied with worries or emotions; (2) acting naturally, being oneself as opposed to playing a role or trying to fit an image; (3) self-monitoring, being alert to signs of stress and learning to regulate one's own reactions; (4) thinking constructively about others, having a positive outlook about recruits and other training personnel, (5) having a balanced view of yourself, maintaining self-confidence and not taking oneself too seriously; (6) being patient with yourself, having realistic expectations and learning from mistakes; and (7) using supportive social relationships, discussing concerns with important others rather than withdrawing into oneself. The coping skills were presented in TV enactments of scenes depicting drill instructors performing their jobs. Both live action recordings and role played performances were utilized, along with an on-camera narrator.

The "Recruit Evaluation" tape, however, had a different origin and content than the other five modules. It was generated in response to the expressed needs of Drill Instructor School. Its content derives from the field of person perception in social psychology and pertains to factors that interfere with objective evaluation, namely, (a) similarity bias, (b) first impression errors, (c) overgeneralization, (d) contrast effects, and (e) stress and disruptive emotion. Like the other modules, the full description of the "Recruit Evaluation" tape is contained in the manuals.

Problem Situation Vignettes. The eight vignettes are composites of role play enactments which portray recurrent problem situations. Five are situations involving problem recruits: (a) "Refusal to Train," (b) "Disrespectful Recruit," (c) "Mentally Slow Recruit," (d) "Emotionally Distressed Recruit," and (e) "Documentation." Two vignettes involve work situations with peers and supervisors: (f) "Communication at Work" and (g) "Anticipating Counseling." Another concerns personal relationships: (h) "Conflict at Home." Each of these topics is first presented as a stimulus or problem calling for analysis and response strategy, somewhat like the "What Now Lieutenant" procedure used in the OCS Reaction Course at Quantico. Our vignettes, however, do more than present the problem situation. Two alternative responses are presented by effective drill instructor models, and several contrasting undesirable responses are also depicted. Instructional messages are provided by a narrator, along with graphics regarding key points, and an evaluative summary is also given. For example, in the problem recruit situations, ingredients of proper documentation are given for the recruit's behavior. Full descriptions of the vignettes are contained in the manual.

Instructional Manuals and Student Handbooks. As described below, the stress coping curriculum was implemented in Drill Instructor School. To facilitate the use of the videotape modules and vignettes, Instructor's Manuals were prepared for each of these components. The manuals were provided to the Leadership Instructor and to the Director of the School. The manuals, include the following format for each module: (a) transcript, (b) summary of main themes, (c) points for discussion, (d) sample situations for applying stress coping skills, and (e) detailed outline (a

lesson plan in military instructional format). The vignette manuals provide (a) problem overview, (b) transcripts, (c) supplementary lecture material, and (d) discussion topics for each of the problem situations.

In addition to the instructors' manuals, a Student Handbook was developed for use by the Drill Instructor School students. The Handbook was designed to be given to the drill instructor candidate at the start of the training program. Its content is a synopsis of the stress coping modules. Its use in Drill Instructor School, however, was in the form of handouts for the individual modules. (The leadership instructors preferred this procedure to providing the intact handbook.) With the separate handouts the leadership instructor then created a fill-in exercise for the key concepts. This was judged to foster greater attention to the material.

Follow-up Seminars. The regimental commanders at both MCRDs requested that we initiate a follow-up component to the program. While this was not part of our proposal or contract, in view of its potential value and the needs expressed, we developed a plan for drill field seminars that provides a type of "refresher course" regarding the stress coping skills materials. This was implemented during the pick-up briefings at both depots, although the procedure varied somewhat.

The method for conducting these seminars was determined after a number of consultations with regimental commanders, as well as with several groups of prospective seminar leaders. At San Diego, the seminars were conducted by the series chief drill instructors (CDI), while at Parris Island it was done by the company first sergeants. The seminars were intended to address five main topics: (1) "Stress and Recruit Behavior," (2) "Disruptive Emotions," (3) "Recruit Evaluation and Documentation," (4)

"Work Relationships," and (5) "Personal Relationships." A manual for the topics involving the use of the videotape modules and vignettes was developed for the seminar leaders, and a handbook for participants was also developed.

Several efforts were made to train the seminar leaders but two conditions made the operation of this part of the intervention less than optimal. First, videotape equipment and the tapes themselves were often not available in the locations where the pick-up briefs were conducted. Second, personnel turnover presented a major stumbling block to program continuity. Turnover was not a problem in the Drill Instructor Schools where the main intervention was conducted, because training there is done primarily by one individual, the Leadership Instructor. There, the stress coping materials became part of his turnover file and was relatively smoothly passed on to his successor. This was not possible with the CDIs or First Sergeants, whose jobs are primarily administrative rather than instructional.

Implementation. As indicated above, the stress coping materials were implemented in DI School by the Leadership Instruction. This was done as part of the Program of Instruction (POI) in the classes pertaining to Leadership and to Recruit Evaluation. The particular place in the POI was arranged with the director of the school and the leadership instructor when the schedules were developed for each class.

The intervention materials were introduced incrementally at San Diego, because they were first being produced at the TAVSC there, and the School wanted to use them as soon as each new tape was available. In 1984, however, Parris Island was included, and production work on three modules

proceeded there and at Quantico through September, 1985. The vignettes were all produced at San Diego.

The full set of tapes became available for use with the 3/86 cohort. However, the 1/86 and 2/86 classes did receive partial implementation of the program. For San Diego, it was nearly full implementation, whereas it was less complete for Parris Island. Unlike the San Diego DI School, where we had worked on projects prior to the present one, the staff at Parris Island had not been integrally involved in the project's activities. However, Parris Island quickly became fully involved in the production of the videotape materials for the modules on anger, anxiety, and personal relationships. Thus, the incorporation into the curriculum of project ideas and materials first occurred at Parris Island for the 1/86 class, which used three modules and three vignettes. Moreover, a new leadership instructor was installed for the 2/86 class at Parris Island who had no exposure to the project and was being trained by us during that class. There was also a lag in the delivery of tapes to Parris Island, as the full set was not in place until the 3/86 class.

Evaluation Procedure. Several procedures were used to assess the effectiveness of the stress-coping training materials. The evaluation methods began with various measures obtained in DI School: audience evaluations of the videotapes as they were produced, comprehension tests given following viewing to gauge degree of understanding, ratings of instructional components of DI School obtained at graduation, and multiple measures of stress-related factors taken at entry and just prior to graduation. The latter measures followed the protocol utilized in our previous research with drill instructors involving San Diego DI School

cohorts. These included personality measures (e.g., Type A behavior, locus of control, anger, and anxiety), perceptions of job stress, physiological measures (blood pressure and heart rate), and a short health practices questionnaire.

In addition to the above stress measures, we also obtained supervisor evaluations in a six-month follow-up study. These involved four sets of ratings obtained from (1) the series chief drill instructor, (2) the company first sergeant, (3) the series officer, and (4) the company commander. Performance measures were also obtained from archival records. For the two training cycles that occurred since graduation, platoon scores were obtained for final drill, practical tests, physical fitness test, final inspection, and rifle range qualification.

Results

Audience Evaluations

Evaluative ratings of the videotape materials were obtained through the course of their development and implementation. The Program of Instruction at the Drill Instructor Schools is tightly scheduled, and it was often difficult to budget time for the administration of evaluation rating forms. We always requested that the evaluations be conducted regularly, but the time constraints on the school staff often did not permit this. The audience evaluations that were obtained throughout the project were generally consistent and positive.

Three rating dimensions were utilized: (1) "How likely are you to apply what was shown in the film to your own work as a drill instructor?" (2) "How useful or applicable will the film be in your personal life?" and (3) "Overall, how interesting was the film?" The ratings were obtained on

six-point scales ranging from "not at all" to "very likely" (or "very interesting") for "Demanding Excellence," "Coping with Frustration," and "Recruit Evaluation." The means and standard deviations for these ratings are presented for four cohorts in Table 1. The evaluations are highly consistent across the cohorts and modules, particularly with regard to likelihood of applying what was shown to one's own work as a drill instructor. The respondents perceive the videotape materials to be highly useful to the drill field, slightly less useful to their personal life, and to be of high interest value.

No evaluations were obtained for the three later produced videotapes, "Anger and Impatience," "Evaluation Anxiety," and "Personal Relationships." When these were implemented, the program had expanded to near complete development, as most vignettes were already produced. Because of production delays for these modules, their implementation came near the end of the project period, and therefore time was not available to separately evaluate them. Given their better production quality, we believe that they would be evaluated at least as highly as the other modules.

For the vignettes, a cohort at San Diego evaluated all vignettes except "Conflict at Home," which was the last one produced. Other evaluations were obtained for "Communication about Work Problems" and "Anticipating Counseling" and from the 3/86 San Diego cohort for "Disrespectful Recruit." The data for these evaluations are contained in Tables 2 and 3. The vignettes generally are given high evaluations which were performed on six point scales. The ratings are slightly lower than for the two earlier groups, but still the average rating for likelihood of applying the vignette material is 5 on a scale of 6 units. The one

TABLE 1
MODULE AUDIENCE EVALUATIONS

	LIKELY TO APPLY ON DRILL FIELD	USEFUL IN PERSONAL LIFE	INTEREST QUALITY OF FILM
<u>Cohort SD</u>			
"Demanding Excellence" and "Coping with Frustration"	5.6 (.7)	5.0 (.8)	5.0 (1.2)
<u>Cohort SD</u>			
"Demanding Excellence"	5.3 (.8)	5.0 (1.1)	4.9 (1.0)
"Coping with Frustration"	4.9 (1.1)	4.5 (1.4)	4.7 (1.3)
"Recruit Evaluation"	5.5 (.7)	4.5 (1.7)	5.2 (.9)
<u>Cohort SD</u>			
"Demanding Excellence"	5.2 (.9)	5.0 (1.1)	5.0 (1.1)
"Coping with Frustration"	5.4 (.8)	4.9 (.9)	4.8 (1.0)
"Recruit Evaluation"	5.6 (.6)	5.3 (.8)	5.5 (.7)
<u>Cohort PI</u>			
"Recruit Evaluation"	5.2 (.9)	4.6 (1.0)	5.2 (.9)

Note. The ratings were obtained on six-point scales. The values in parentheses are standard deviations.

TABLE 2
VIGNETTE AUDIENCE EVALUATIONS
FOR THREE COHORTS

Cohort and VIGNETTE	<u>Questionnaire Item</u>			
	LIKELY TO APPLY ON DRILL FIELD	USEFUL INFORMATION	PERSONAL LIFE APPLICABILITY	OVERALL RATING
COHORT 1 COMMUNICATION ABOUT WORK PROBLEMS (N=50)	5.2 (1.9)	5.2 (1.0)	4.8 (1.3)	4.9 (1.1)
COHORT 2 ANTICIPATING COUNSELING (N=50)	5.5 (1.0)	5.3 (1.0)	5.1 (1.2)	5.3 (0.9)
COHORT 3 DISRESPECTFUL RECRUIT (N=64)	5.4 (0.9)	5.2 (1.0)	4.5 (1.4)	5.0 (0.9)

NOTE. DATA WAS PROVIDED BY SAN DIEGO D.I. SCHOOL CANDIDATES.
The ratings were made on six-point scales. The values
in parentheses are standard deviations.

TABLE 3
VIGNETTE AUDIENCE EVALUATIONS

VIGNETTE	Questionnaire Item			OVERALL RATING
	LIKELY TO APPLY ON DRILL FIELD	USEFUL INFORMATION	PERSONAL LIFE APPLICABILITY	
REFUSAL TO TRAIN (N=59)	5.1 (1.0)	4.7 (1.4)	NA	4.9 (1.2)
DISRESPECTFUL RECRUIT (N=59)	5.0 (1.0)	4.8 (1.1)	4.2 (1.5)	4.4 (1.2)
MENTALLY SLOW RECRUIT (N=55)	5.0 (1.0)	4.8 (1.1)	4.1 (1.4)	4.4 (1.3)
EMOTIONALLY DISTRESSED RECRUIT (N=59)	4.9 (1.1)	4.6 (1.3)	4.1 (1.4)	4.5 (1.3)
ANTICIPATING COUNSELING (N=48)	5.0 (1.2)	4.7 (1.4)	4.4 (1.6)	4.4 (1.6)
COMMUNICATION ABOUT WORK PROBLEMS (N=47)	4.0 (1.5)	3.4 (1.6)	3.2 (1.6)	2.9 (1.5)

NOTE. DATA WAS PROVIDED BY SAN DIEGO D.I. SCHOOL CANDIDATES.
The ratings were made on six-point scales. The values
in parentheses are standard deviations.

exception to this is for the "Communication about Work Problems" vignette. While an earlier class gave this tape a good evaluation, the 4/86 cohort gave it relatively poor ratings. The open-ended comments of the respondents in the 4/86 class indicated that the scenario (a series officer tells a drill instructor that he must inventory the armory during third phase) was perceived as somewhat unrealistic (15 of 47 respondents). However, no one in the earlier class made this or any similar remark. In fact, 10 of 50 respondents in that class gave comments saying that it was realistic or that it was a type of situation that could occur. Given the disparity in ratings and comments for the same tape, it may well be that the different leadership instructors for these two classes influenced the perceptions and ratings obtained.

Module Comprehension

The degree to which the information about stress and coping skills was understood by students in Drill Instructor School was evaluated by tests of comprehension. The tests were 10 fill-in and multiple choice items composed specifically for the content of the particular module. Data were obtained from a Parris Island cohort for the "Anger and Impatience" and the "Evaluation Anxiety" modules, and a more extensive testing was later done at both depots. The results are presented in Table 4. As with the audience evaluations, it was often difficult to administer these tests because of time constraints in the program of instruction (POI) at the schools.

Examining the average percentage of correct answers for four cohorts as reported in Table 5, a correct score of approximately 80% was achieved for the DI candidates studied across subjects, items, and modules. The

TABLE 4

MODULE COMPREHENSION: Percentage of Correct Answers

MODULE	SAN DIEGO	PARRIS ISLAND
ANGER & IMPATIENCE	77.1% (N=42)	76.7% (N=54)
EVALUATION ANXIETY	85.7% (N=63)	82.3% (N=52)
FRUSTRATION IN PT	83.7% (N=43)	-
DEMANDING EXCELLENCE	83.9% (N=69)	-
PERSONAL RELATIONSHIPS	-	67.0% (N=52)
RECRUIT EVALUATION	89.2% (N=51)	81.4% (N=70)

NOTE. The data were obtained from cohorts at the respective depots. The tabled values are the average percentage of correct responses to 10 item tests done for each module.

highest score was 89.2% at San Diego for the "Recruit Evaluation" module, while the lowest occurred for 67.0% for the "Personal Relationships" module, while the lowest occurred for 67.0% for the "Personal Relationships" module at Parris Island. Comprehension tests were also administered for the anger and the anxiety modules, and the correct response average percentages were 74% and 78%, respectively for those. These results indicate a satisfactory degree of comprehension. Across cohorts and depots, the mean rating of the recruit evaluation component was 5.05 on a six-point scale. This is a higher score than that obtained for depot briefings, individual combat instruction, marksmanship/weapons training, and techniques of military instruction. Stress coping instruction received a mean rating of 4.74, which was also higher than the above components, except for marksmanship/weapons training. Clearly, the instructional components of DI School that are integral to the day-to-day training of recruits (i.e., drill, leadership, physical training, and the SOP) consistently are evaluated highly and receive the highest ranking, as they should be.

While our evaluation was underway, we decided to assess these same judgments about the value of DI School components three months after graduation, once the drill instructor had completed his first training cycle. These follow-up ratings, reported in Table 6, were obtained for approximately half of a San Diego class. These data show that both stress coping instruction and recruit evaluation increase in their relative worth compared to other components of DI School instruction. However, given the variance in comprehension across students, we did examine whether this had a bearing on stress measure outcomes. That is, we analyzed our stress

variables according to whether the individual was low or high on comprehension of the module material. Indeed, those high in comprehension, controlling for reading ability and GCT aptitude, had lower stress responses. These results are reported later in conjunction with the stress outcomes.

Components of Instruction at DI School

At the time of graduation, we obtained ratings of the components of Drill Instructor School from all graduating students in four cohorts at both San Diego and Parris Island. Twelve components were designated on the rating forms: depot briefings, close order drill, basic military subjects, leadership, individual combat training, marksmanship weapons training, physical fitness, first-aid, stress coping instruction, SOP, recruit evaluation, and techniques of military instruction. These are reported in Table 5. The ratings were done on six-point scales.

The training program pertaining to the stress coping and the recruit evaluation components received ratings that were favorable across cohorts and depots. The relative rank of the ratings for these two components of our program components received higher ratings than depot briefings, individual combat training, marksmanship/weapons instruction, and techniques of military instruction.

During our evaluation we decided to assess at the three month follow-up these differential judgments of Drill Instructor School components. We were able to do this with half of the 4/86 San Diego cohort, and the results are given in Table 6. At this follow-up, the stress coping program gains slightly in its perceived value, relative to other components of Drill Instructor School instruction.

TABLE 5

RATINGS OF COMPONENTS OF INSTRUCTION AT D.I. SCHOOL GRADUATION

	BRIEFING	CLOSE ORDER DRILL	BASIC MILITARY SUBJ.	LEADERSHIP	IND. COMBAT TRNG.	MARKS WEAP MECH TRNG.	PHYSICAL TRNG.	1ST AID & CPR	STRESS COPING INSTR.	ROP	RECRUIT EVAL.	TECH MILIT. INSTR.
1-86	SD	5.93 (0.26)	5.34 (0.91)	5.56 (0.81)	4.68 (1.15)	4.71 (1.29)	5.78 (0.48)	5.78 (0.61)	4.63 (1.32)	5.49 (0.87)	4.63 (1.24)	4.44 (1.14)
	PI	5.70 (0.74)	5.25 (1.07)	5.51 (1.09)	4.69 (1.27)	4.92 (1.26)	5.66 (0.68)	5.54 (0.83)	4.77 (1.38)	5.80 (0.61)	5.31 (0.87)	4.67 (1.29)
	BOTH	5.79 (0.60)	5.28 (1.01)	5.53 (0.98)	4.69 (1.22)	4.83 (1.27)	5.71 (0.61)	5.64 (0.76)	4.72 (1.35)	5.67 (0.74)	5.04 (1.08)	4.58 (1.23)
2-86	SD	5.93 (0.25)	5.42 (0.66)	5.58 (0.69)	4.87 (1.10)	4.62 (1.43)	5.91 (0.29)	5.84 (0.42)	5.42 (0.69)	5.62 (0.72)	5.18 (0.75)	4.51 (1.14)
	PI	5.61 (0.74)	5.20 (1.08)	5.61 (0.72)	4.26 (1.62)	4.62 (1.57)	5.42 (1.07)	5.54 (0.86)	4.42 (1.57)	5.68 (0.60)	5.20 (1.01)	4.71 (1.40)
	BOTH	5.75 (0.60)	5.30 (0.92)	5.60 (0.70)	4.53 (1.44)	4.62 (1.50)	5.63 (0.86)	5.67 (0.72)	4.86 (1.35)	5.65 (0.65)	5.19 (0.90)	4.63 (1.29)
3-86	SD	5.81 (0.80)	5.45 (0.97)	5.70 (0.86)	4.98 (1.33)	4.94 (1.28)	5.70 (0.81)	5.62 (0.80)	4.87 (1.26)	5.51 (1.08)	4.85 (1.15)	3.93 (1.54)
	PI	5.88 (0.33)	5.46 (0.73)	5.80 (0.53)	4.80 (1.35)	5.04 (1.11)	5.98 (0.14)	5.64 (0.72)	4.54 (1.42)	5.78 (0.58)	5.26 (0.92)	4.86 (1.05)
	BOTH	5.85 (0.60)	5.45 (0.85)	5.75 (0.71)	4.89 (1.34)	4.99 (1.19)	5.85 (0.58)	5.63 (0.81)	4.70 (1.35)	5.65 (0.87)	5.06 (1.05)	4.42 (1.38)
4-86	SD	5.77 (0.63)	5.33 (0.69)	5.49 (0.80)	5.21 (0.82)	5.08 (0.99)	5.75 (0.56)	5.85 (0.46)	5.00 (0.97)	5.61 (0.49)	4.90 (0.97)	4.29 (1.27)
	PI	5.69 (0.76)	5.34 (0.89)	5.71 (0.73)	4.47 (1.47)	4.63 (1.43)	5.71 (0.54)	5.57 (0.61)	4.40 (1.36)	5.66 (0.72)	4.88 (1.03)	4.59 (1.04)
	BOTH	5.73 (0.70)	5.34 (0.79)	5.60 (0.77)	4.83 (1.25)	4.85 (1.25)	5.73 (0.55)	5.71 (0.56)	4.69 (1.21)	5.64 (0.62)	4.89 (1.00)	4.44 (1.16)
Entire Population		5.78 (0.63)	5.34 (0.90)	5.62 (0.80)	4.73 (1.32)	4.82 (1.31)	5.73 (0.67)	5.66 (0.71)	4.74 (1.32)	5.65 (0.72)	5.05 (1.01)	4.52 (1.27)
		n = 402	n = 401	n = 401	n = 400	n = 401	n = 402	n = 402	n = 401	n = 399	n = 401	n = 400

TABLE 6

CHANGE IN MEAN RATINGS OF COMPONENTS OF INSTRUCTION AT D.I. SCHOOL
AFTER THREE MONTHS ON THE DRILL FIELD FOR SAN DIEGO CLASS 4-86

	BRIEFING	CLOSE ORDER DRILL	BASIC MILITARY SUBJ.	LEADERSHIP	IND. COMBAT TNG.	MARKS WEAP MECH TNG.	PHYSICAL TNG.	1ST AID & CPR	STRESS COPING INSTR.	SOP	RECRUIT EVAL.	TECH MILIT. INSTR.	n
AT GRADUATION	3.85 (1.28)	5.77 (0.63)	5.33 (0.69)	5.49 (0.80)	5.21 (0.82)	5.08 (0.99)	5.75 (0.56)	5.85 (0.46)	5.00 (0.97)	5.61 (0.49)	4.90 (0.97)	4.29 (1.27)	n = 46
AT 3-MONTH FOLLOW-UP	3.55 (1.40)	5.60 (0.68)	4.85 (1.09)	4.90 (1.25)	4.10 (1.37)	3.60 (1.79)	5.75 (0.64)	5.70 (0.47)	4.80 (1.06)	5.40 (0.75)	4.40 (1.39)	3.85 (1.63)	n = 20

As the three months testing, an overall evaluation of the stress coping program (as opposed to the specific ratings of all Drill Instructor School components) was carried out. These results are presented in Table 7 and show that drill instructors consider the program to be valuable and useful.

Drill Field Seminars

The seminars on stress coping skills that were conducted with active duty drill instructors were arranged through the regimental command. These drill field seminars were done following the pick-up briefings, the day prior to the start of a new training cycle. The seminars were led by the series chief drill instructor at San Diego and by the company first sergeant at Parris Island. Seven seminars at the start of this program at San Diego were evaluated by the participating drill instructors. Here, it should be noted that participation actually detracted from a drill instructor's time off, a fact that works against getting good evaluations.

Results from the seminar evaluations are presented in Table 8. These ratings, done on six-point scales, are quite high. The mean rating for the "likelihood that what was learned will be applied to (one's) work as a drill instructor" is 5.0, and it can be seen from the other ratings that the strong majority of drill instructors found these seminars to be highly valuable. In their open-ended comments, it was frequently said that they liked the opportunity for discussion and that they received useful information about how to deal with stress.

Stress Outcomes

The various evaluation ratings by drill instructors of the intervention program and its particular components indicate that the stress

TABLE 7
Overall Evaluation of Stress Coping Program
at Three Months Follow-up

Cohort	Have Applied the Program	Useful for Problem Situations	Useful in Personal Life	Overall Value
2/86 San Diego (pilot testing) (N=17)	4.7 (1.1)	4.4 (1.2)	4.3 (1.2)	4.2 (1.3)
3/86 San Diego (N=32)	4.5 (1.1)	4.3 (1.2)	3.9 (1.2)	4.2 (1.3)
4/86 San Diego (N=38)	4.2 (1.2)	4.0 (1.2)	3.3 (1.2)	3.7 (1.3)
Total Means	4.4 (1.2)	4.2 (1.2)	3.7 (1.2)	4.0 (1.3)

Note. The ratings were made on a six-point scale, ranging from "not at all" to "a great deal" (very much, very useful, very valuable). The values in parentheses are standard deviations. Three month follow-up testing was not done at Parris Island for 3/86. Data for 4/86 Parris Island is in the text.

TABLE 8
Evaluations of Drill Field Seminars
on Stress Coping Skills
(San Diego, MCRD)

SEMINAR DATE & attendance	<u>QUESTIONNAIRE ITEM</u>			
	<u>LIKELY TO APPLY</u>	<u>EXTENT USEFUL</u>	<u>APPLICABILITY TO PERSONAL LIFE</u>	<u>OVERALL RATING</u>
6/21/85 N=23	4.5 (1.9)	3.5 (1.5)	4.2 (1.4)	4.4 (1.3)
7/19/85 N=25	5.2 (1.0)	4.9 (1.8)	5.1 (1.0)	5.2 (1.2)
8/23/85 N=22	5.3 (0.8)	4.9 (0.8)	4.7 (1.0)	4.9 (1.0)
9/06/85 N=27	5.0 (0.8)	4.4 (1.0)	4.5 (1.1)	4.6 (1.0)
9/13/85 N=24	4.9 (1.4)	5.0 (1.4)	4.7 (1.6)	4.8 (1.6)
9/20/85 N=14	4.6 (0.9)	4.4 (0.9)	4.2 (1.0)	3.9 (1.2)
9/27/85 N=24	5.7 (0.6)	5.1 (0.8)	5.0 (0.7)	5.2 (1.0)

Note. The seminars were lead by series chief drill instructors at MCRD, San Diego, during the pick-up period. The values in parentheses are standard deviations.

coping skills intervention is judged to be valuable and useful, not only when presented in Drill Instructor School but also several months after graduation. Given these positive judgments by the target audience, it must still be demonstrated that the intervention had some stress reducing effect.

In the absence of an experimental control group with randomized assignment, our design which used comparison groups from previous studies, leaves some ambiguity in the inferences that can be drawn from obtained group differences. However, this seemed the most reasonable option.

We focus here on the main stress reaction measures for which we have comparison data--these are perceived job stress, blood pressure, heart rate, speed/impatience, and anger.

Physiological Measures. Means and standard deviations for heart rate, systolic blood pressure, and diastolic blood pressure for the comparison cohorts and the first four training cohorts are presented in Table 9. Contained in the table are the measurements obtained just prior to graduation and at the three month follow-up testing.

The cohorts are significantly lower than the comparison cohorts at the three month drill field testing in heart rate, $t(269) = 6.70$, $p < .001$, and diastolic pressure, $t(285) = 5.04$, $p < .001$. The cohorts are also significantly lower at graduation in both heart rate, $t(363) = 6.21$, $p < .001$, and diastolic pressure, $t(366) = 7.00$, $p < .001$. The graduation point differences may reflect effects of the intervention or may be the result of subject characteristics in those selected for Drill Instructor School. However, the testings done at the start of training in Drill Instructor School show no significant differences between the training and

TABLE 9

Physiological Measures of Comparison and Intervention
Cohorts at DI School Graduation and Three Month Follow-up

<u>Group</u>	<u>DI School Graduation</u>			<u>Three Month Follow-up</u>		
	<u>HR</u>	<u>SBP</u>	<u>DBP</u>	<u>HR</u>	<u>SBP</u>	<u>DBP</u>
<u>Comparison Cohorts</u>						
4/80 SD	60.5 (6.9)	124.4 (17.4)	71.7 (7.5)	69.7 (7.6)	126.2 (15.4)	74.9 (9.2)
5/80 SD	60.2 (5.8)	129.2 (10.2)	74.3 (9.3)	66.4 (6.3)	127.4 (13.6)	73.1 (8.0)
4/81 SD	63.3 (7.4)	126.7 (11.2)	68.9 (7.9)	68.5 (7.4)	135.1 (15.1)	77.3 (8.4)
5/81 SD	63.1 (7.1)	139.2 (13.7)	76.1 (8.0)	71.0 (11.1)	132.3 (12.5)	76.9 (9.0)
<u>Intervention Cohorts</u>						
1/86 SD	57.7 (7.9)	127.7 (7.6)	67.1 (7.6)	56.6 (10.5)	126.6 (8.1)	64.5 (7.4)
1/86 PI	62.0 (8.9)	139.8 (9.7)	65.5 (11.3)	65.0 (10.2)	129.4 (10.2)	69.1 (9.7)
2/86 SD	54.0 (7.3)	126.4 (10.8)	63.2 (8.9)	59.0 (11.0)	121.4 (12.7)	64.2 (9.7)
2/86 PI	52.3 (6.9)	132.4 (11.4)	75.0 (9.2)	63.1 (8.6)	123.9 (11.0)	64.1 (10.7)

comparison cohorts. This suggests that the training program is influencing stress reactions in Drill Instructor School.

Perceived Stress and Personality Measures. In the comparison and training groups, several self-report and personality measures of stress were obtained. One index was called "DI Stress" which consisted of ratings done on 10 items reflecting various aspects of a drill instructor's job. This in effect is a perceived job stress measure, although when taken in Drill Instructor School, it is expected job stress. Data for this measure, along with results for anger (Novaco Provocation Inventory) and for the speed/impatience factor on the Jenkins Activity Survey (JAS) are presented in Table 10. The speed/impatience factor on the JAS has been previously found by us to increase significantly as a function of drill field duty and to be negatively related to job performance evaluations by supervisors.

There are significant differences between groups for "expected stress" at graduation, $t(319) = 2.32$, $p < .05$, but there are no differences at three months. The speed/impatience factor is not different for these groups at either testing, but there are specific differences at both graduation, $t(273) = 1.98$, $p < .05$, and the three-month follow-up, $t(213) = 4.34$, $p < .001$, for the anger inventory measure. This instrument had not been administered to the 1980 cohorts and was therefore only available for the two from 1981 for comparison.

As indicated earlier, we began to speculate about whether differences in comprehension of the videotape materials would affect stress outcomes. This speculation arose as we saw variation in the comprehension scores obtained on the tests that we constructed and administered in Drill Instructor School. However, comprehension data were only obtained for the

TABLE 10

Perceived Job Stress, Anger, and Speed/Impatience Scores
for Comparison and Intervention Cohorts at
DI School Graduation and Three Month Follow-up Testings

Group	DI School Graduation			Three Month Follow-up			
	Comparison Cohorts	Perceived Stress	Anger Inventory	Speed/Impatience	Perceived Stress	Anger Inventory	Speed/Impatience
4/80 SD		43.9 (17.4)	-	152.5 (60.1)	45.8 (20.6)	-	195.2 (81.4)
5/80 SD		50.9 (19.4)	-	143.7 (52.3)	49.6 (15.3)	-	170.9 (57.1)
4/81 SD		50.8 (20.5)	235.9 (41.0)	162.9 (61.1)	52.4 (20.5)	271.2 (50.9)	185.6 (75.5)
5/81 SD		44.1 (18.1)	224.2 (61.5)	155.1 (57.5)	46.1 (21.2)	262.3 (62.8)	203.1 (74.1)
Intervention Cohorts							
1/86 SD		41.7 (16.3)	232.1 (48.2)	156.6 (60.5)	48.4 (18.1)	250.8 (51.3)	189.1 (78.7)
1/86 PI		37.4 (19.3)	207.3 (59.3)	151.0 (65.1)	46.1 (19.9)	233.5 (57.3)	183.5 (78.4)
2/86 SD		48.2 (19.8)	229.1 (48.1)	127.2 (42.0)	46.6 (18.9)	238.2 (42.9)	178.1 (55.9)
2/86 PI		49.2 (17.2)	249.1 (59.6)	149.2 (58.0)	52.4 (17.6)	244.0 (61.7)	204.0 (70.8)

Note. Anger inventory measures were not obtained in the testings of the 1980 cohorts. The "perceived stress" index is a summary of the DI Stress scales, which for the graduation testing is an expected job stress. The values in parentheses are standard deviations.

4/86 cohorts, and the delay in production completion prevented a full analysis of results in this regard. We were able to examine how degree of comprehension affected the expected stress of drill instructor duty at the graduation testing of the 4/86 cohorts. These results are presented in Table 11.

The students were divided into low versus high comprehension groups on the basis of a median split on an overall index of comprehension which aggregated the post-viewing testing scores. The analyses presented in Table 11, along with the means and standard deviations for the various items of the "DI Stress" index, were conducted with statistical controls for reading level and GCT aptitude. There are significant differences between the low and high comprehension groups for stress associated with producing an outstanding platoon, personal problems, controlling emotions, long working hours, and constraints on autonomy. Controlling for reading level and aptitude, the high comprehension group has significantly lower expectations of job stress.

Discussion

All of the evidence we have gathered concerning the modules and vignettes that were developed, together with the related manuals, handbooks, and handout material, suggest that the stress-coping program makes a positive contribution in the development of drill instructors. The program is both comprehensible and interesting. Self-perceived stress, physiological responses, and behavioral indices indicate that the stress-coping program provides information that is pertinent and useful for drill instructors in training and drill instructors on the drill field. An obvious indicator of the effectiveness of the program is the degree to

Table 11

Mean Ratings of Expected Job Stress on the Drill Field Partitioned According to
Comprehension of Stress Coping Skills Program

	Location	N	Stressors										Controlling for Reading Level Controlling for GCT	p
			Produce Outstanding Platoon	Meeting Officers' Expectations	Other Drill Instructors	Personal Problems	Controlling Emotions	Long Working Hours	Not Enough Freedom With Platoon	Following SOP	Outside Studies	Fear of Punishment for SOP Violation		
High Comprehension	San Diego	18	5.7 (2.7)	5.2 (2.7)	4.0 (2.4)	3.2 (2.4)	3.0 (3.2)	4.1 (2.9)	4.2 (3.0)	3.8 (2.9)	4.1 (3.2)	3.7 (3.0)		
	Parris Island	19	6.2 (2.2)	5.2 (2.9)	3.9 (2.4)	4.0 (2.9)	4.9 (2.9)	5.4 (2.5)	4.7 (2.2)	4.9 (2.9)	3.4 (3.2)	5.8 (3.2)		
		37	5.9 (2.5)	5.2 (2.3)	3.9 (2.3)	3.8 (2.5)	4.4 (2.9)	4.7 (2.8)	4.4 (2.6)	4.4 (2.9)	3.7 (3.1)	4.7 (3.2)		
Low Comprehension	San Diego	11	7.7 (1.2)	7.2 (1.2)	5.5 (2.5)	5.3 (2.6)	5.3 (2.2)	5.9 (2.0)	6.6 (1.9)	5.3 (2.2)	4.9 (2.9)	5.8 (2.4)		
	Parris Island	15	7.3 (1.9)	5.9 (2.7)	5.1 (3.0)	5.3 (3.1)	5.2 (2.1)	6.4 (2.3)	5.3 (3.0)	5.3 (3.3)	3.2 (3.3)	6.4 (2.7)		
		26	7.5 (1.4)	6.4 (2.3)	5.2 (2.8)	5.9 (2.9)	5.2 (2.1)	6.5 (2.1)	5.9 (2.7)	5.3 (2.8)	3.9 (3.2)	6.2 (2.5)		
														p < .05
														p < .005
														p < .001
														p < .007
														p < .005
														p < .03
														NS
														NS
														NS
														NS
														NS
														NS
														NS

Note. The data were obtained from the 4-08 Drill Instructor School classes at the time of graduation. The "Comprehension" groups pertain to comprehension of the stress coping skills materials. The groups were generated by a median split on an overall index of comprehension obtained from scores on post-exposure testing. The values in parentheses are standard deviations. The differences between comprehension groups across depots are significant as indicated.

which it is actually being used at Parris Island and San Diego. It is being used and its judged value compares favorably with other aspects of the drill instructor training program.

The job of a drill instructor can be especially stressful if he lacks the coping skills for dealing with the demands and challenges of the drill field. High levels of stress have a negative effect on the performance of drill instructors and can have negative long-term effects on their health. While stress cannot and should not be eliminated from the lives of Marines, it is important that they learn how to minimize the negative effects of stress, and to some extent, to control the level of stress that is being experienced. The stress-coping program provides students with a set of stress-coping skills and demonstrations of their applicability to drill-field experiences and incidents.

Two areas of further work are suggested by this project. One has to do with the desirability of periodically updating and improving its contents and elements. The sources of stress will change over time as will the experiences of drill instructors. The stress-coping program should reflect these changes. Reviews and evaluations of the stress-coping program periodically will provide information about its continued effectiveness and ways of enhancing its effectiveness.

The other area that is suggested concerns extension of the stress-coping concept to other groups of Marines. For example, women drill instructors were not included in the project reported here, yet women experience special sources of stress that require coping skills. A program for women drill instructors would be highly desirable. In addition to women Marines, the stress-coping approach might be of value for other

groups of Marines exposed to high levels of stress. For example, Marines who are involved in dangerous or sensitive missions might have an especially great need for enhancement of stress-coping skills.

The stress-coping concept can contribute to military effectiveness in two ways. One, through enhancing performance effectiveness and two, by contributing to the prevention of stress-related decrements in performance and even stress-related disorders. The topic of stress-coping is complex requiring identification of those coping strategies that work in particular types of situations. If one analyzes the coping process, three psychological factors seem of special relevance: (1) A sense of personal control; (2) The ability to obtain and use adequate information; and (3) The ability to use available resources including social support.

There is no single or simple formula for managing stress. In some instances an adequate coping response may be to change the situation for the better, if possible; in other situations, it may be necessary to face threat or harm head on. The keynote is flexibility. It is more effective to possess a variety of coping skills than only one specific response. The ability to tailor a particular coping response to the demands of the situation is critical; there is no prescribed sequence of coping responses.

Effective stress coping might be summarized as the ability to think coolly and clearly and to be task oriented under conditions of challenge and demand. Military personnel who approach stressful situations as challenging or as a problem to be solved tend to think about what they will do in a situation, while the stress prone or vulnerable tend to dwell on how they will do in the situation. When military personnel are task oriented they are able to define the problem confronting them in clear,

behavioral terms. They can also generate a wide range of possible alternative courses of action. Viewed from this perspective the stress-coping program described in this report might be viewed as a prototype for other programs specifically pertinent to particular groups of military personnel that might be developed.

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